Quick Start Guide

UDM-1604 Endeleo Multi-Format Distribution Hub

Overview

The UDM-1604 4x16 Multi-Format Distribution Hub (FG-UDM-1604) delivers any video source, including Component, RGB, VGA and S-Video to a virtually unlimited number of display devices. Advanced, yet cost-effective, it distributes media over easily-installed, dedicated Cat5, 5e or 6 cable, thereby de-coupling it from the corporate backbone.

Users can quickly switch and transmit any video source to any display device, power on/off display devices, and permission user control to select and play video sources and media servers on demand.

The UDM-1604 (FIG. 1) offers four high-resolution input ports on the back of each unit. Additional Composite video inputs (RJ-45 located on the front) enable the connection of four interconnects from a TVM-1600 Managed TV Distribution Hub or four Composite video sources using approved Video over UTP extenders. In total, the UDM-1604 system can distribute any combination of the following: four RGBHV sources, four Component video sources, four S-Video sources or 12 Composite video sources.

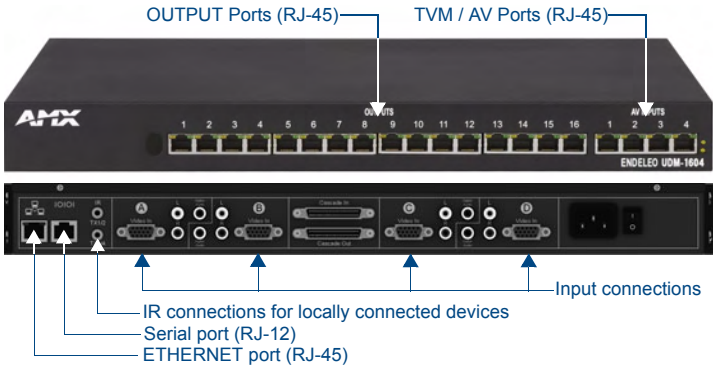

FIG. 1 UDM-1604

Features

- 4 multi-format inputs (plus 4 CVBS inputs) x 16 outputs
- Digital audio support
- Central device control
- Compatible with TVM-1600
- 1U rack-mounting
- Cascadable to support higher number of outputs

Compatibility

The UDM-1604 is compatible for use with the UDM-RX01 (FG-UDM-RX01) receiver.

Product Specifications

UDM-1604 Specifications	
Power Requirements:	90-264v AC140 W (3 PIN IEC)
Network Interface:	10baseT
Serial Interface:	9600, 8, N, 1
Max Video Input:	• 4 x RGBHV (or) • 4 x S-Video (or) • 12 x CVBS (plus) • 4 x Endeleo TVM-1600 or CVBS
Cascade Port:	Matrix connector for tertiary units
Electrical:	RJ-45 indicating power to receiver and link status.
Operating Environment:	• 35°F - 95°F (5°C - 35°C) • Max. relative humidity - 85% (non-condensing)
Dimensions (HWD):	1 3/4" x 19" x 12 1/2" (45 mm x 440 mm x 320 mm)
Weight:	8.8 lb. (4 Kg)
Certifications:	• CE/UL/FCC part 15 Class A
Included Accessories:	• IEC power cord • 19" mounting brackets • RS-232 DB-9/RJ-12 connection cable ***Note**: No A/V interface cables supplied*
Other AMX Equipment:	• HD15 to S-Video Cable (FG-UDM-SVID01) • HD15 to 3x RCA Breakout Cable (FG-HD15RCA3) • RS232 DB9/RJ12 Connection Cable (FG-RS01) • UDM-RX01 Multi-Format Receiver (FG-UDM-RX01) • UDM-RC10 IR Engineering Remote Control (FG-UDM-RC10) • IR01 IR Emitter Module (FG-IR01) • IR03 External IR Receiver Module (FG-IR03)

Audio & Video Formats/Resolutions/Distance

Audio & Video Formats/Resolutions/Distance				
Class	**Format**	**Name**	**Distance (m)**	**Distance (ft.)**
Composite	720x480	NTSC	700	2300
	720x756	PAL	700	2300
Component	720x480	480p	700	2300
	720x756	576p	700	2300
	1280x720	720p	200	650
	1920x1080	1080i	150	500
	1920x1080	1080p	120	400
VGA	640x480	VGA	200	650
	800x600	SVGA	200	650
	1024x768	XGA	200	650
	1280x1024	SXGA	150	500
	1600x1200	UXGA	120	400

A/V Source Input Connectors

There are 4 sets of input connectors to the rear panel of the UDM-1604, labelled A-D (see FIG. 1) that allow the UDM-1604 to connect to A/V source devices.

Connecting a VGA Video Input

1. Connect one end of a VGA cable to the source device's VGA output port.
2. Attach the other end of the cable to the appropriate VIDEO IN connection on the UDM. For example, connect to the Video In connection on Input A of the Hub.
3. Connect any audio to the analog (RCA) audio connectors or digital (SPDIF) connector.

***Note**: Ensure Input A is configured as a "VGA Input" and named appropriately within the "Inputs" section of the Configuration software. Also ensure the correct Audio Type (Analog L/R or S/PDIF) is selected for the relevant input.*

Connecting a Composite Video Input

1. Connect the UDM-HD15RCA3 Breakout Cable (FG-HD15RCA3, not included) to the source device's Composite output ports:
   - •A1 = red RCA
   - •A2 = green RCA
   - •A3 = blue RCA
2. Attach the other end of the cable to the appropriate VIDEO IN connection on the UDM.
3. Connect any audio to the analog (RCA) audio connectors or digital (SPDIF) connector.

Connecting a Component Video Input

1. Connect the UDM-HD15RCA3 Breakout Cable (FG-HD15RCA3, not included) to the video source device's Component video output connectors (Red, Green and Blue).
2. Attach the other end of the cable to the appropriate VIDEO IN connection on the UDM.
3. Connect any audio to the analog (RCA) audio connectors or digital (SPDIF) connector.

Connecting an S-Video Input

1. Connect the UDM-SVID01 HD-15 to SVideo cable (FG-UDM-SVID01, not included) to the video source's S-Video connection.
2. Attach the other end of the cable to the appropriate VIDEO IN connection on the UDM.
3. Connect any audio to the analog (RCA) audio connectors or digital (SPDIF) connector.

Device Connectivity (IRTX Ports)

A maximum of 2 Devices such as DVD players or VCRs can be connected to the UDM Hub and controlled through the Browser software or via a remote control.

1. Connect an Endeleo IR Emitter Module (FG-IR01) to the relevant IRTX port at the rear of the Hub.
2. Run the other end of the IR Emitter to the device's IR sensor and attach the bud to the device's sensor by removing the cover of the reverse side of the bud.

IR commands for each device on the system have to be learned by the Hub in order to function properly. Refer to the Protocols and IR section of the *UDM-1604 Operation/Reference Guide* on how to learn a device's IR commands.

IR Receiver (IRRX) Port

The IR RX port has two purposes:

- •It is used for devices utilizing Passthrough Mode.
- •Also used for learning and creating new IR protocols.

Refer to the *UDM-1604 Operation/Reference Guide* for details.

Connecting a UDM-RX01 Receiver to the UDM Hub

1. Connect a standard Cat5/6 cable to the port marked *UDM* on the UDM Hub.
2. Connect the other end of the Cat5/6 cable to the "UDM Hub" port on the UDM-RX01.
3. When the power is switched on 2 LEDs will be visible at the Hub port – Amber (*phantom power enabled*) and Green (UDM-RX01 connected to Hub port).

Configuration Overview

Each UDM Hub can be configured for the correct network environment. It is also possible to configure each Hub for the correct date and time. Configuration options are available via the UDM Hub's built-in Browser Interface.

Refer to the *UDM-1604 Endeleo Multi-Format Distribution Hub Operation/Reference Guide* for information on input configuration, user control, passthrough mode, video compensation, date/time configuration, creating scheduled events and scheduled presets.

Setup

Perform the following for basic configuration from the Setup option. Click on **Setup**.

1. Configure TCP/IP settings for **Gateway/Subnet Mask** and **UDP** Port if required.
2. Define **Hub Name** if required. Click **Update** when complete.
3. Configure **Date** (dd-mm-yy format) and **Time** of Day (24 Hour time used). Click **Update** when complete.
4. If you want the system to restore last connections after a system reboot - check the "**Restore on Power Up**" tick box.

Note: *The Date/Time displayed in the status bar of the UDM's web pages may need to be refreshed. Click the Wednesday 01-Jun-05 14:45 link to refresh the date/time.*

Network Configuration

Hubs can be configured for the network environment using the *Setup* page.

***Note**: The UDM-1604 does not support DHCP. Always configure a static IP Address.*

1. Specify the following network options for the Hub:
   a. Hub IP Address, Subnet Mask and Default Gateway;
   b. UDP Port (default = **2008**)
   c. Hub name (maximum of 30 characters).
2. Click on **Update** to save the new settings to the Hub **(**FIG. 2**)**.

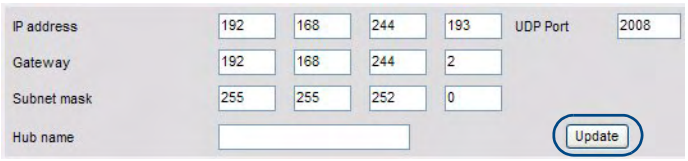

FIG. 2 Network Settings

***Note**: All changes are immediate - once the IP address of the hub has been changed redirect the web browser to the changed address.*

Connecting to the UDM-1604

1. With the TCP/IP address configured, connect the UDM-1604 to your network equipment (switch, hub, or serial port) - or if required use an Ethernet Cross-over cable to connect your PC directly.
2. Enter the IP address into the address field within a browser window.
   The default IP address of the UDM-1604 is **192.168.0.96**.
3. To connect to the UDM-1604, a password is required.
   •The username should be left *blank*.
   •The password is **admin**.
   •*The password is case sensitive.*
4. On initial connection, the **Status** page is displayed.

Input Configuration

The options on the *Inputs* page allow you to specify the video types and audio sources being presented to each input port and where appropriate renaming these.

1. Select the **Inputs** link to invoke the *Input Configuration* page (FIG. 3).
2. Use the *Type* drop-down menus to select the appropriate Input **Type** for each input).
   •For VGA, Component, S-Video, and Composite inputs, only one connection is possible per input port.
   •If the Input Type is *Composite*, then the screen will refresh and enable the administrator to name each of the 3 available composite sources separately.
3. **Name** the input *Type(s)* appropriately.

Configuring Audio Types For Inputs

Audio types (Analog L/R or S/PDIF) can be configured for each Input. To configure audio for individual Inputs;

1. Select the **Inputs** option from the available options at the top of the *Status* page.
2. Select the appropriate **Audio** type *Analog L/R* or *S/PDIF*.
   •If "Composite" is selected as the Input type, only one audio source will be available.

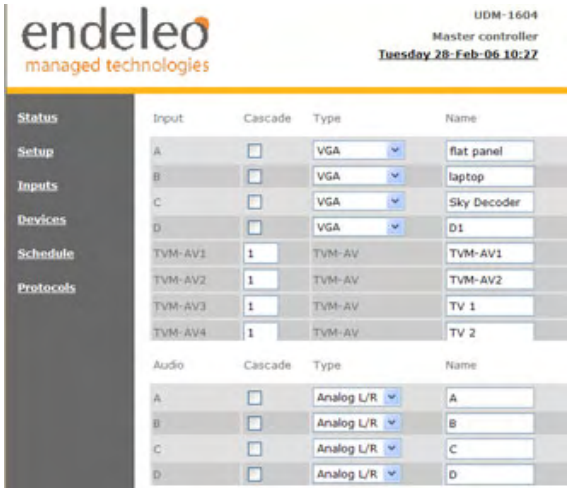

FIG. 3 Input Configuration page

•Ensure audio has been connected from the Input to the rear of the hub. Ensure the connections are sound and fixed correctly.

Naming Ports

The Status option displays the currently connected sources (what source each display is showing). Click the **Status** option. For each of the 16 ports, click the **Port Name** hyperlink and define the port name. e.g. Reception, Lobby, etc.

Calibrating and Compensating Receive Units

Each Receive unit may need to be compensated for distance (Brightness, Sharpness) and skew (R, G, B) depending on the length and type of UTP cable (Cat5, Cat5e, Cat6) being used.

1. Connect a known good source (input) to all ports. Click the **Include All** link on the Status page - this will turn all 16 port lines orange from their default grey.)
2. On the top dark grey "*Included*" bar select a source to connect to by selecting a **Source Name** from the drop down list. If you have a VGA source select this source.
3. Click the **Execute** link and all displays will now display the selected source.
4. Depending on the calibration of the Receive Module, the image may appear dim/bright, sharp/fuzzy or possibly not at all.
5. From the Status page click the **Port Name** hyperlink, and then click the **Advanced** checkbox. Brightness, Sharpness and R, G and B skew delays can be adjusted manually.
6. In this screen Sync handling capabilities can also be adjusted. Define as **Auto** if you don't know but if no image appears you may need to select **Sync on Green**.
7. Adjust **Brightness** until you can see a bright image and **Sharpness** to focus the image correctly. Values can be changed by either using the **Up** and **Down** buttons, or by typing the value (0-255) in the editable text box.
8. Then adjust Red, Green and Blue Skew settings (click **Red** link and the Blue setting will appear, click **Blue** and the Green setting will appear and click **Green** and the Red setting will reappear). Each radio button corresponds to a 4ns (nano-second) delay.
9. Repeat this display setup for each active screen connected to the UDM1604.

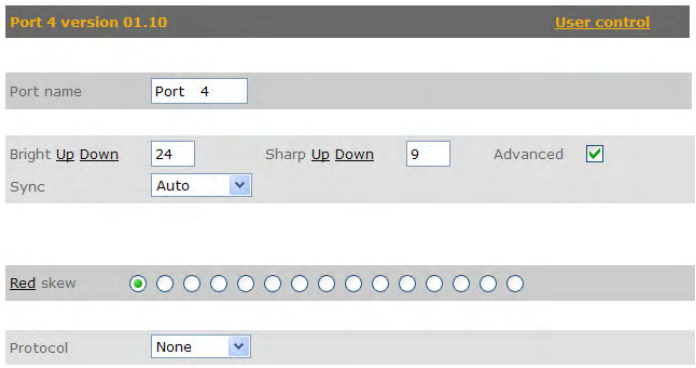

FIG. 4 Calibrating and Compensating Receive Units

Additional Documentation

Refer to the *UDM-1604 Multi-Format Distribution Hub Operation/Reference Guide* (available online at **www.amx.com**) for detailed information on configuring the Hub, UDM receivers and source devices.

3000 RESEARCH DRIVE, RICHARDSON, TX 75082 • 800.222.0193 • fax 469.624.7153 • technical support 800.932.6993 • www.amx.com